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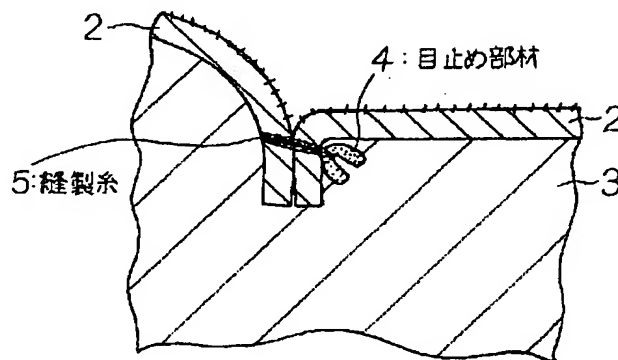
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(54) 【発明の名称】 縫製表皮材及びこれを用いた表皮一体発泡成形方法

(57) 【要約】

【目的】 表皮一体発泡成形の際に、縫製した部分の針穴空隙から発泡樹脂が表面に浸透するのを防止して、表面に発泡樹脂の斑点状の付着がない外観品質の良好な成形品を得ることができ、且つ作業性を低下させず安価で実用的な、縫製表皮材及び表皮一体発泡成形方法を提供する。

【構成】 複数の表皮材2が縫製されてなり表皮一体発泡成形に用いられる縫製表皮材1において、柔軟性を有する目止め部材4が、表皮材2の裏面側の縫い目に沿って、表皮材縫製糸5により表皮材の縫製と同時に縫着積層して縫製表皮材1を形成し、該縫製表皮材1を用いて構成した成形用型に発泡性樹脂原料液を注入して該樹脂を発泡させ、発泡樹脂を形成すると同時に縫製表皮材1と発泡樹脂3とを一体化して表皮一体発泡成形体を得る。



## 【特許請求の範囲】

【請求項 1】 複数の表皮材が縫製されてなり表皮一体発泡成形に用いられる縫製表皮材において、柔軟性を有する目止め部材が、表皮材の縫い目に沿って、表皮材縫製系により表皮材の縫製と同時に縫着積層されていることを特徴とする縫製表皮材。

【請求項 2】 請求項 1 記載の縫製表皮材を成形用型にセットし、発泡性樹脂原料液を注入して該樹脂を発泡させ、発泡樹脂を形成すると同時に縫製表皮材と発泡樹脂とを一体化することを特徴とする表皮一体発泡成形方法。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】 本発明は、ファブリック等を縫製してなり表皮一体発泡成形に用いられる縫製表皮材、及びこの縫製表皮材を用いた表皮一体発泡成形方法に関するものである。

## 【0002】

【従来の技術】 従来から、ファブリック等を縫製してなる表皮材をウレタンフォーム等の発泡体の表面に積層してなるものが自動車の座席等に用いられている。この座席の製造方法として、例えば所定の立体形状に縫製された表皮材を型に載置し、この表皮材の内部に、ウレタンフォームの発泡性樹脂液を注入し発泡させ、発泡体を所定形状に成形すると同時に表皮材と発泡体とを一体化する方法が公知である。この成形方法は、表皮一体発泡成形方法と呼ばれている。

【0003】 表皮一体発泡成形方法により成形体を製造する際、例えばファブリック等の裏面に連続気泡性のバックリング層を積層した表皮片を裁断、縫製して袋状の表皮材とした縫製表皮材が、従来用いられていた。

## 【0004】

【発明が解決しようとする課題】 しかしながら、上記従来の縫製表皮材は、袋状に縫製された表皮材の縫い目において、縫製系と表皮材の針穴との間に若干の空隙（針穴空隙）が形成され、特にコーナー部分や、縫合部分に張力が加わった場合に、表皮一体発泡成形を行った際、発泡樹脂の原料液が上記空隙から成形品の表面側に浸み出して硬化し、発泡樹脂が縫い目に沿って斑点状に付着してしまうという問題があった。この斑点状の発泡樹脂は、表皮一体発泡成形品の表面でかなり目立つため、成形品の品質という点で大きな欠点となってしまう。

【0005】 上記の問題を解決する手段として、縫製した後の表皮材の針穴空隙を一つ一つ目止め加工を行った後に、表皮材に発泡性樹脂を注入して表皮一体発泡成形を行う方法が知られている。しかし、この方法では目止め作業に極端に手間と労力がかかり、成形品の品質が向上しても表皮一体成形品自体のコストが上昇するのは避けられず、あまり実用的ではなかった。

【0006】 そこで、縫い合わせ部からの発泡樹脂のは

み出しを防止した表皮材が提案されている（実開昭 62-39597 号公報）。この表皮材は、自動車のヘッドレストに関し、表皮材を布地／スラブウレタン／EVA フィルムの積層シートから構成し、この表皮材の縫い合わせ部に軟質樹脂フィルムの粘着テープを接着して、縫い合わせ部全体を覆ったものである。

【0007】 また、特に発泡樹脂のはみ出しを防止する目的のものではないが、織物、編物等の通気性素材の表皮片を袋状に縫合し、裏面に連続気泡性の発泡体からなるバックリング層を積層してなり、バックリング層の縫合部に液不透過性皮膜を形成した縫製表皮材が公知である（実開平 2-36412 号公報）。また、表皮材の裏面全体に液不透過性皮膜を設けることも公知である。上記の液不透過性皮膜としては、30～100 μm の厚さのプラスチックフィルムを貼着したものや、溶液型樹脂接着剤をスプレーコート等によって塗布したもの等が用いられている。

【0008】 上記の表皮材は、針穴空隙からの発泡材が滲み出すのを防止するためのものではないが、いずれも縫い合わせ部全体に発泡材が浸透しないため、縫い目の針穴空隙からの発泡材の滲み出し防止の効果が得られる。しかしながら、表皮材を縫製した後に、縫い目全体に粘着テープやプラスチックフィルムを貼着したり、又、接着剤樹脂をスプレーすることは、表皮材が柔軟であり、縫製が立体的で複雑なことが多いため、それらの作業が複雑で非常に手間がかかり、作業性が低くコストが上昇してしまうのは避けられなかった。更に、表皮材の通気性、風合等の機能を阻害してしまう虞れもあった。

【0009】 本発明は上記従来技術の欠点を解決するためのものであり、表皮一体発泡成形の際に、縫製した部分の針穴空隙から発泡樹脂が表面に滲み出すのを防止して、表面に発泡樹脂の斑点状の付着がない外観品質の良好な成形品を得ることができ、且つ作業性を低下させず安価で実用的な、縫製表皮材及び表皮一体発泡成形方法を提供することを目的とする。

## 【0010】

【課題を解決するための手段】 本発明は、（1）複数の表皮材が縫製されてなり表皮一体発泡成形に用いられる縫製表皮材において、柔軟性を有する目止め部材が、表皮材の縫い目に沿って、表皮材縫製系により表皮材の縫製と同時に縫着積層されていることを特徴とする縫製表皮材、（2）上記（1）記載の縫製表皮材を成形用型にセットし、発泡性樹脂原料液を注入して該樹脂を発泡させ、発泡樹脂を形成すると同時に縫製表皮材と発泡樹脂とを一体化することを特徴とする表皮一体発泡成形方法、を要旨とするものである。

## 【0011】

【実施例】 以下、本発明の実施例を図面に基づいて説明する。図 1 は表皮一体発泡成形品の 1 例を示す要部断面

図である。図2は本発明の縫製表皮材の1実施例を示し、縫製部分の断面図である。本発明の縫製表皮材1は、図1に示すように、複数の表皮材2(2a、2b、2c、2d、2e等)が縫製されて構成されるものであり、この縫製表皮材1は、内部に発泡体3を成形する表皮一体発泡成形に用いるものである。

【0012】上記表皮材2は、例えばモケットやニット地などの織物や、編み物等の表面材の裏面に、スラブウレタンフォームのような軟質発泡シートや、ポリウレタン樹脂フィルム等のプラスチックフィルムからなるカバーシートが積層されたもの等が用いられる。尚、表皮材2は上記のように2層構成に限らず、表面材のみの1層構成であっても、又上記の積層体に更に他のプラスチックシート等を積層してなる3層以上の積層体であってもよい。

【0013】更に本発明の縫製表皮材1は、図2に示すように、各表皮材2a～eが縫着されている縫製部分に、柔軟性を有する目止め部材4が、表皮材2の裏面側から縫い目に沿って表皮材縫製糸5により縫着積層されている。目止め部材4は表皮材の縫製の際一緒に縫製されて縫着される。尚、図2に示す実施例では目止め部材4は縫い目の片側のみに縫着積層されている。表皮材の縫製の際、表皮材2の針穴と縫製糸との間にわずかな隙間(針穴空隙)が形成され、この針穴空隙が発泡性樹脂の原料液のしみ出しの原因となるが、縫製の際に表皮材と一緒に縫着積層される目止め部材4が、その柔軟性によって縫製糸5に引っ張られ変形し針穴空隙を塞ぐ。また、針穴付近の原料液を含浸し、針穴への原料液の侵入を防ぐ。

【0014】目止め部材4は、例えばテープ状、糸状、紐状等の形状であって、表皮材2に縫着することが可能であり、針穴空隙を塞ぐことのできる柔軟性を有するものであればよい。具体的な材質として、フェルトシート、又は軟質ウレタンフォームのような弾性発泡体等をテープ状に形成したものや、毛糸等が用いられる。尚、目止め部材として強度の小さいフォームシートのようなものを用いる場合には、該フォームシートをナイロントリコット等の合成繊維布にラミネートして強度を上げたものを用いることができる。

【0015】目止め部材4は、テープ状の場合、幅が2.0～20mm程度で、厚みが1.0～10.0mm程度が好ましい。テープ幅が2.0mm未満であると、縫製する際に縫着部分からずれ易くなり作業効率が低下し、一方、幅が20.0mmを超えるとコスト面で不利になる虞れがある。又、テープの厚みが1.0mm未満では、針穴と縫製糸の間の空隙を塞ぐ効果が充分発揮されない虞れがあり、一方、厚みが10.0mmを超えると、作業性やコスト等の点で支障が出る虞れがある。テープ状の目止め部材は、更に好ましくは、幅が3.0～10.0mmであり、幅が2.0～5.0mmである。

【0016】又、目止め部材4が糸状もしくは紐状の場合は、例えば毛糸では、3番～9番程度の番手のものが好ましい。上記範囲であれば、確実に針穴空隙を塞ぐことができる。また、嵩高さがあり、原料液を含浸する働きも可能となる。糸状もしくは紐状の目止め部材4の材質は、羊毛、綿等の天然繊維、アクリル、ポリエステル、ポリエチレン等の合成繊維が使用でき、例えば熱可塑性で低融点のものであれば、成形時の発泡熱や型の加温による熱で繊維が収縮し、針穴空隙を更に塞ぎ易くなる。

【0017】図3は本発明の縫製表皮材の他の実施例を示し、縫製部分の断面図である。本発明の縫製表皮材1は、図3に示すように目止め部材4を表皮材2b、2cの縫製部分の両側から縫着積層してもよい。一般的には、目止め部材4は図3に示すように縫製部分の両側から縫着積層するのが好ましいが、発泡樹脂の原料液がしみ込みにくい場合には、図2に示すように目止め部材4を片側のみに縫着積層する構成を採用することができる。

【0018】縫い目部分への発泡性樹脂の原料液のしみ込み易さは、表皮材の材質、縫い目の種類、縫製表皮材の形状、成形の際の原料の注入位置との関係等によって異なる。表皮材2の縫製の縫い目は、単環縫、本縫、二重環縫、縁かがり縫、偏平縫等の種々の縫い目から適宜選択して用いることができる。例えば、表皮材の縫製の際に使用される縫い目が、環縫等のように片側の針穴を糸自体がふさぐような形態の場合は、針穴がふさがれていない側のみに目止め部材4を縫着するようにし(図2)、本縫等のような通常の縫い目には、両側に目止め部材4を縫着するようにしてもよい(図3)。

【0019】又、縫製表皮材1の発泡性樹脂の原料液が注入される部分に近い部位の縫い目は、原料液が粘度の低い状態で表皮材に浸透するためしみ込み易いので、目止め部材4を必ず縫着するようにするのが好ましく、一方発泡性原料液の注入部分から遠い部位ではある程度硬化の進んだ原料液が表皮材と接触するので、針穴空隙から原料液が外部に漏れ出す虞れは少ないので、そのような部位では特に目止め部材4を設けなくともよく、コスト面での低減も可能となる。

【0020】以下、本発明の表皮一体発泡成形方法について説明する。図4は表皮一体発泡成形に用いる型を示す断面図である。本発明の表皮一体発泡成形方法では、目止め部材4が表皮材の縫製時に同時に縫製されてなる上記の縫製表皮材1を用いる。まず、図4に示すように、上記の目止め部材4が所定の縫着部分に縫着積層されてなる縫製表皮材1を所定の型8の下型8a内に載置する。しかる後、発泡性樹脂の原料液を型8のキャビティ9に注入し上型8bを閉鎖して原料液を発泡させる。発泡性樹脂の原料液がキャビティ9内を満たして硬化して発泡体3を形成すると共に、縫製表皮材1と発泡体3

とが一体化する。

【0021】上記の発泡性樹脂の原料液としては、例えばポリウレタン発泡体の原料液等が用いられる。特に原料液が低粘度の場合であっても、本発明の縫製表皮材は針穴の空隙が目止め部材によって塞がれているため、良好なしみ出し防止効果が得られる。原料液の粘度は、通常、注入時ほど低粘度で、発泡がすすむにつれて、増粘してくるために、注入位置、成形形状等により、目止め部材の種類、取付け方（縫い方等）及び使用部分を適宜選択対応する必要がある。

【0022】又、本発明の表皮一体発泡成形方法は、例えば自動車の座席、ヘッドレスト、家具や劇場等の椅子等の製造に最適に用いられる。

#### 【0023】

【発明の効果】以上説明したように本発明の縫製表皮材は、目止め部材が表皮材の縫い目に沿って表皮材縫製系により縫着積層されている構成を採用したことにより、この目止め部材によって縫製と針穴の隙間が塞がれ、該縫製表皮材を用いて表皮一体発泡成形を行う際に、発泡樹脂の原料液が表皮材の縫着部分の針穴と縫製系との空隙から成形品の表面にしみ出すことがなく、成形品表面に発泡体が斑点状に付着するのを防止でき、極めて外観品質の優れた成形品が得られる。

【0024】又、本発明の縫製表皮材は、目止め部材が縫製と同時に表皮材の縫製系によって縫着されている構成により、縫製後に針穴空隙を一々目止めしていた従来の方法と比較して、ミシン縫製技術がそのまま利用できるため、作業に手間がかからない。更に目止め部材の縫着は表皮材の縫製と同時に行うため、縫製後に目止め部材を別に縫着や貼り合わせたりする手間が不要であり、針穴空隙からの原料液のしみ出しが防止された縫製表皮材の製造がきわめて容易である。しかも目止め部材は、縫製部分のみにテープ状や紐状体を用いればよく、縫製

部分全体を縫製後にシート等を貼着して覆うのと比較して、目止め部材の使用量も最小量でよく材料コストも上昇せず安価に提供可能である。

【0025】本発明の表皮一体発泡成形方法は、請求項1記載の縫製表皮材を用いた型に発泡性樹脂原料液を注入して該樹脂を発泡させ、発泡樹脂を形成すると同時に縫製表皮材と発泡樹脂とを一体化する構成を採用したことにより、成形の際に縫製表皮材を所定の位置に配置して成形樹脂を注入充填するだけ、針穴空隙から発泡樹脂が外部に漏れて斑点状に硬化するのを簡単に防止でき、従来の方法のような針穴空隙を一々目止めする作業は一切不要であり、それまでの成形装置をそのまま利用可能であり、成形作業も全く同じようにして、外観品質の優れた表皮一体成形品を得ることができるため、実用的効果が大きい。また、得られた成形品は、表面材の風合を損なうことなく、縫合部分の着座感や接触感の優れたものとなる。

#### 【図面の簡単な説明】

【図1】表皮一体発泡成形品の1例を示す部分断面図である。

【図2】本発明の縫製表皮材の1実施例を示し、縫製部分の断面図である。

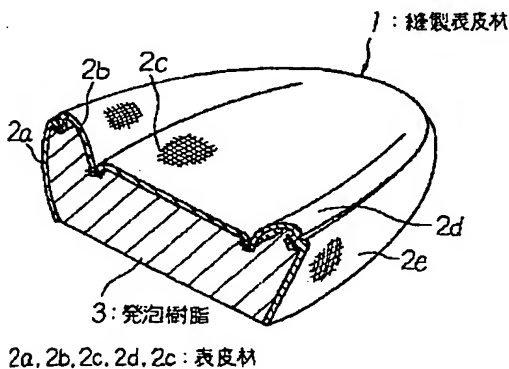
【図3】本発明の縫製表皮材の他の実施例を示し、縫製部分の断面図である。

【図4】本発明の表皮一体発泡成形方法を説明するための図であり、成形用型の断面図である。

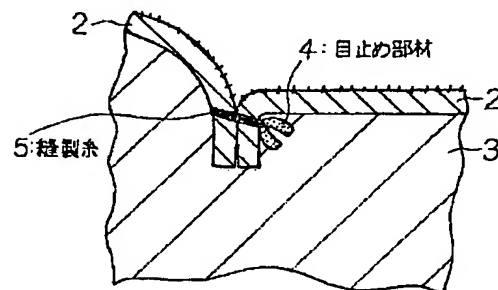
#### 【符号の説明】

- 1 縫製表皮材
- 2 (2a、2b、2c、2d、2e、) 表皮材
- 3 発泡樹脂
- 4 目止め部材
- 5 縫製糸

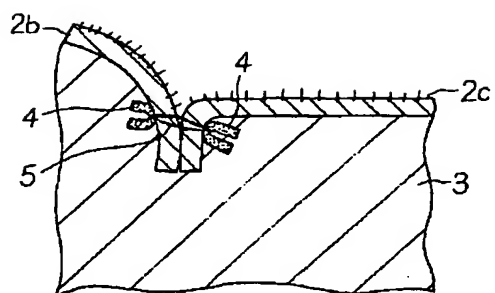
【図1】



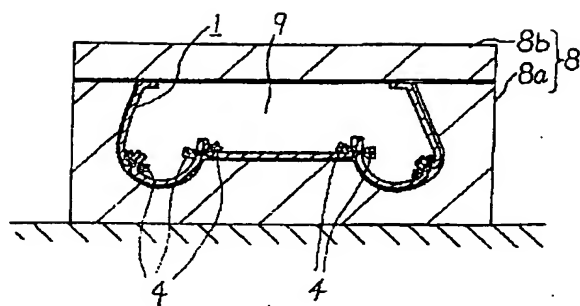
【図2】



【図 3】



【図 4】



AC

## PATENT ABSTRACTS OF JAPAN

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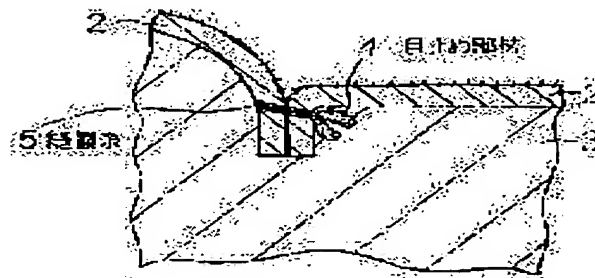
AKATA KATSUHIKO

(54) SEWING SKIN MATERIAL AND SKIN INTEGRATED FOAM MOLDING METHOD EMPLOYING THE SEWING SKIN MATERIAL

(57)Abstract:

PURPOSE: To provide a sewing skin material and skin integrated foam molding method, which can produce a molded product free from being stained by spotted foamed resin over the surface, excellent in appearance quality, and inexpensive and practical with no operating performance degraded by preventing foamed resin from being permeated out of needle holes in sewn area when skin integrated foam molding is performed.

CONSTITUTION: A sewing skin material is formed



up by sewing a plurality of skin materials 2, and it is used for skin integrated foam molding. Flexible filler members 4 are sewed and layered by a skin material sewing thread 5 along seams in the back face side of the skin materials 2 so as to allow the sewing skin material to be formed up simultaneously when the skin materials are sewed, foaming resin stock solution is poured in a molding die formed out of the sewing material so as to be foamed, foamed resin is thereby formed, and simultaneously, the sewing skin materials are integrated with foaming resin 3, so that the skin integrated foam molded products is obtained.



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#### LEGAL STATUS

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[Date of requesting appeal against examiner's decision of rejection]

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CLAIMS

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[Claim(s)]

[Claim 1] Sewing epidermis material characterized by carrying out the attaching-by-sewing laminating of the filling member which has flexibility to sewing and coincidence of epidermis material by epidermis material sewing thread along with a seam of epidermis material in sewing epidermis material by which comes to carry out sewing of two or more epidermis material, and it is really [ epidermis ] used for foaming.

[Claim 2] It is really [ epidermis ] which is characterized by unifying sewing epidermis material and foaming resin at the same time set sewing epidermis material according to claim 1 to a mold for shaping, and pour in fizz resin raw material liquid, it makes this resin foam and it forms foaming resin the foaming method.

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[Translation done.]



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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention really [ epidermis ] using the sewing epidermis material which comes to carry out sewing of the fabric etc. and is really [ epidermis ] used for foaming, and this sewing epidermis material relates to the foaming method.

[0002]

[Description of the Prior Art] The thing which comes to carry out the laminating of the epidermis material which comes to carry out sewing of the fabric etc. to the surface of foam, such as urethane foam, from the former is used for the seat of an automobile etc. The method of uniting epidermis material and foam with laying the epidermis material by which sewing was carried out to the predetermined solid configuration in a mold as the manufacture method of this seat, making the fizz resin liquid of urethane foam pour in and foam to the interior of this epidermis material, and fabricating foam in a predetermined configuration, and coincidence is well-known. This shaping method is really [ epidermis ] called the foaming method.

[0003] When really [ epidermis ] manufacturing a Plastic solid by the foaming method, decision and the sewing epidermis material which carried out [ material ] sewing and was made into saccate epidermis material were conventionally used for rear faces, such as a fabric, in the epidermis piece which carried out the laminating of the backing layer of open cell nature.

[0004]

[Problem(s) to be Solved by the Invention] However, the above-mentioned conventional sewing epidermis material is set to the seam of the epidermis material by which sewing was carried out to saccate. Some opening (pinholing opening) is formed between sewing thread and the pinholing of epidermis material. When tension joined a corner portion and a suture portion especially and foaming was really [ epidermis ] performed, the raw material liquid of foaming resin oozed out and hardened from the above-mentioned opening to the surface side of mold goods, and there was a problem that foaming resin will adhere to punctate along with a seam. Since this punctate foaming resin is really [ epidermis ] considerably conspicuous on the surface of a foaming article, it will

become a big defect in respect of the quality of mold goods.

[0005] After performing filling processings for the pinholing opening of the epidermis material after carrying out sewing one by one as a means to solve the above-mentioned problem, the method of pouring fizz resin into epidermis material and really [ epidermis ] performing foaming is learned. However, even if time and effort and an effort were extremely applied to the filling activity by this method and the quality of mold goods improved, it was not avoided that the cost of the mold goods itself really [ epidermis ] goes up, and it was not so practical.

[0006] Then, the epidermis material which prevented the flash of the foaming resin from the sewing-up section is proposed (JP,62-39597,U). About the headrest of an automobile, this epidermis material constitutes epidermis material from a laminating sheet of cloth / slab urethane / EVA film, pastes up the adhesive tape of an elasticity resin film on the sewing-up section of this epidermis material, and covers the whole sewing-up section.

[0007] Moreover, although it is not a thing to prevent especially the flash of foaming resin, the sewing epidermis material which sutured the epidermis piece of permeability materials, such as textiles and knitting, to saccate, came to carry out the laminating of the backing layer which becomes a rear face from the foam of open cell nature, and formed the liquid impermeable coat in the suture section of a backing layer is well-known (JP,2-36412,U). Moreover, it is also well-known to prepare a liquid impermeable coat in the whole rear face of epidermis material. As the above-mentioned liquid impermeable coat, what stuck plastic film with a thickness of 30-100 micrometers, the thing which applied solution mold resin adhesives with the spray coat etc. are used.

[0008] Although the above-mentioned epidermis material is not for preventing that the foam from a pinholing opening oozes out, since all are sewn up and foam does not permeate the whole section, the foam from the pinholing opening of a seam oozes out, and the effect of prevention is acquired. However, adhesive tape and plastic film were stuck, and since it was common for carrying out the spray of the adhesives resin to the whole seam to have flexible epidermis material, and for sewing to be three-dimensional and to be complicated after carrying out sewing of the epidermis material, those activities were complicated, time and effort was taken very much, and it was not avoided that workability is low and cost goes up. Furthermore, there was also a possibility of checking functions, such as the permeability of epidermis material and a hand.

[0009] It aims at this invention being for solving the defect of the above-mentioned conventional technology, and foaming resin being able to prevent oozing out on the surface from the pinholing opening of the portion which carried out sewing on the occasion of foaming, and really [ epidermis ] being able to obtain the good mold goods of the appearance quality which does not have punctate adhesion of foaming resin in the surface, and not reducing workability, and sewing epidermis material and really [ cheap and practical / epidermis ] offering the foaming method.

[0010]  
[Means for Solving the Problem] In sewing epidermis material by which comes to carry out sewing of the epidermis material of (1) plurality, and this invention is really [ epidermis ] used for foaming Sewing epidermis material to which a filling member which has flexibility is characterized by

carrying out the attaching-by-sewing laminating to sewing and coincidence of epidermis material by epidermis material sewing thread along with a seam of epidermis material, (2) Set sewing epidermis material of the above-mentioned (1) publication to a mold for shaping, pour in fizz resin raw material liquid and this resin is made to foam, and really [ epidermis ] which is characterized by unifying sewing epidermis material and foaming resin let a foaming method be a summary at the same time you form foaming resin.

[0011]

[Example] Hereafter, the example of this invention is explained based on a drawing. Drawing 1 is the important section cross section really [ epidermis ] showing one example of a foaming article. Drawing 2 shows one example of the sewing epidermis material of this invention, and is the cross section of a sewing portion. Sewing of two or more epidermis material 2 (2a, 2b, 2c, 2d, 2e, etc.) is carried out, it is constituted, and the sewing epidermis material 1 of this invention really [ epidermis ] which fabricates foam 3 inside uses this sewing epidermis material 1 for foaming, as shown in drawing 1 .

[0012] As for the above-mentioned epidermis material 2, textiles, such as moquette and a knitting ground, the thing by which the laminating of an elasticity foaming sheet like slab urethane foam and the cover sheet which consists of plastic film, such as a polyurethane resin film, was carried out to the rear face of facing, such as knitting, are used. In addition, even if the epidermis material 2 is 1 lamination of not only a two-layer configuration but only facing as mentioned above, it may be a layered product of three or more layers which comes to carry out the laminating of the sheet plastic of further others etc. to the above-mentioned layered product.

[0013] Furthermore, as the sewing epidermis material 1 of this invention is shown in drawing 2 , along with the seam, the attaching-by-sewing laminating of the filling member 4 which has flexibility is carried out to the sewing portion on which each epidermis material 2 a-e is sewn by epidermis material sewing thread 5 from the rear-face side of the epidermis material 2. In the case of sewing of epidermis material, sewing of the filling member 4 is carried out together, and it is sewn on. In addition, in the example shown in drawing 2 , the attaching-by-sewing laminating of the filling member 4 is carried out only to one side of a seam. Few crevices (pinholing opening) are formed between the pinholing of the epidermis material 2, and sewing thread in the case of sewing of epidermis material, and the filling member 4 to which the attaching-by-sewing laminating of it is carried out together with epidermis material in the case of sewing although the raw material liquid of fizz resin oozes and this pinholing opening causes \*\* is pulled by sewing thread 5, deforms, and takes up a pinholing opening with that flexibility. Moreover, the raw material liquid near a pinholing is sunk in and invasion of the raw material liquid to a pinholing is prevented.

[0014] The filling members 4 are configurations, such as the shape of the shape of the shape for example, of a tape, and thread, and a string, can be sewn on the epidermis material 2 and should just have the flexibility which can take up a pinholing opening. What formed a felt sheet or elastic foam like flexible urethane foam in the shape of a tape as the concrete quality of the material, woolen yarn, etc. are used. In addition, when using a thing like a foam sheet with reinforcement small as a filling member, what laminated this foam sheet on synthetic-fiber cloths, such as nylon

tricot, and raised reinforcement can be used.

[0015] In the case of-like [ tape ], thickness of width of face is [ about 1.0-10.0mm ] desirable [ the filling member 4 ] at about 2.0-20mm. In case sewing is carried out to tape width being less than 2.0mm, when it becomes easy to shift from an attaching-by-sewing portion, working efficiency falls and width of face exceeds 20.0mm on the other hand, there is a possibility of becoming disadvantageous in respect of cost. Moreover, there is a possibility that the effect that the thickness of a tape takes up the opening between a pinholing and sewing thread with less than 1.0mm may not be demonstrated enough, and on the other hand, when thickness exceeds 10.0mm, there is a possibility that trouble may occur in respect of workability, cost, etc. A tape-like filling member is still more desirable, width of face is 3.0-10.0mm, and width of face is 2.0-5.0mm.

[0016] Moreover, when the filling member 4 has the shape of the shape of thread, and a string, with woolen yarn, the thing of the yarn count of - of No. 3 about No. 9 is desirable. If it is the above-mentioned range, a pinholing opening can be taken up certainly. Moreover, there is dimension height and the work which sinks in raw material liquid also becomes possible. Synthetic fibers, such as natural fibers, such as wool and cotton, an acrylic, polyester, and polyethylene, can be used, for example, if it is the thing of the low melting point in thermoplasticity, fiber will contract with the foaming heat at the time of shaping, or the heat by warming of a mold, and the quality of the material of the filling member 4 of the shape of the shape of thread and a string further becomes easy to take up a pinholing opening.

[0017] Drawing 3 shows other examples of the sewing epidermis material of this invention, and is the cross section of a sewing portion. The sewing epidermis material 1 of this invention may carry out the attaching-by-sewing laminating of the filling member 4 from the both sides of epidermis material 2b and the sewing portion of 2c, as shown in drawing 3 . Generally, as shown in drawing 3 , as for the filling member 4, it is desirable to carry out an attaching-by-sewing laminating from the both sides of a sewing portion, but when the raw material liquid of foaming resin cannot sink in easily, the configuration which carries out the attaching-by-sewing laminating of the filling member 4 only to one side as shown in drawing 2 can be adopted.

[0018] The ease of sinking in of the raw material liquid of the fizz resin to a seam portion changes with relation with the impregnation location of the quality of the material of epidermis material, the class of seam, the configuration of sewing epidermis material, and the raw material in the case of shaping etc. The seam of sewing of the epidermis material 2 can be suitably chosen from various seams, such as \*\*\*\*\*, \*\*\*\*, duplex \*\*\*\*, \*\*\*\*\*, and flat sewing, and can be used. For example, when the seam used in the case of sewing of epidermis material is the gestalt with which thread itself plugs up the pinholing of one side like \*\*\*\*, the filling member 4 is sewn only on the side with which the pinholing is not plugged up ( drawing 2 ), and you may make it sew the filling member 4 on the usual seams, such as \*\*\*\*, at both sides ( drawing 3 ).

[0019] Moreover, the seam of the part near the portion into which the raw material liquid of the fizz resin of the sewing epidermis material 1 is injected Since raw material liquid permeates epidermis material in the condition that viscosity is low and it is easy to sink in Since the raw material liquid with which degree hardening it is desirable surely sewing the filling member 4 on,

other hand progressed contacts epidermis material Since there are few possibilities that raw material liquid may begin to leak outside from a pinholing opening, it is not necessary to form the filling member 4, and the reduction in respect of cost also becomes possible especially by such part.

[0020] Hereafter, the foaming method is really [ of this invention / epidermis ] explained. Drawing 4 is the cross section showing the mold really [ epidermis ] used for foaming. By the foaming method, the above-mentioned sewing epidermis material 1 which comes to carry out sewing of the filling member 4 to coincidence at the time of sewing of epidermis material is really [ of this invention / epidermis ] used. First, as shown in drawing 4 , the sewing epidermis material 1 which the attaching-by-sewing laminating of the above-mentioned filling member 4 is carried out to a predetermined attaching-by-sewing portion, and it turns into is laid in female mold 8a of the predetermined mold 8. The raw material liquid of fizz resin is injected into the cavity 9 of a mold 8, punch 8b is closed, and raw material liquid is made to foam after an appropriate time. While the raw material liquid of fizz resin fills and hardens the inside of a cavity 9 and forms foam 3, the sewing epidermis material 1 and foam 3 unify.

[0021] As raw material liquid of the above-mentioned fizz resin, the raw material liquid of polyurethane foam etc. is used, for example. even if it is the case where especially raw material liquid is hypoviscosity, since the opening of a pinholing is closed by the filling member, the sewing epidermis material of this invention is good -- it oozes out and the prevention effect is acquired. The time of impregnation is hypoviscosity, and the viscosity of raw material liquid usually needs to carry out selection correspondence of the class of filling member, how (how to sew etc.) to attach, and the use portion suitably with an impregnation location, a shaping configuration, etc., in order to thicken as foaming progresses.

[0022] Moreover, the foaming method is really [ of this invention / epidermis ] used the the best for manufacture of chairs, such as a seat of an automobile, a headrest, furniture, and a theater, etc.

[0023]  
[Effect of the Invention] As explained above, the sewing epidermis material of this invention by having adopted the configuration to which the attaching-by-sewing laminating of the filling member is carried out by epidermis material sewing thread along with the seam of epidermis material In case the crevice between sewing thread and a pinholing is closed by this filling member and foaming is really [ epidermis ] performed using this sewing epidermis material It can prevent that the raw material liquid of foaming resin does not ooze out on the surface of mold goods from the opening of the pinholing of the attaching-by-sewing portion of epidermis material, and sewing thread, and foam adheres to the mold-goods surface punctate, and the mold goods which were extremely excellent in appearance quality are obtained.

[0024] Moreover, since sewing-machine sewing technology can use a pinholing opening as it is after sewing as compared with the conventional method filled one by one by the configuration in which the filling member is sewn on sewing and coincidence by the sewing thread of epidermis material, the sewing epidermis material of this invention does not require time and effort for an

activity. Furthermore, in order to perform attaching by sewing of a filling member to sewing and coincidence of epidermis material, manufacture of the sewing epidermis material by which attaching by sewing and the time and effort to stick are independently unnecessary, the raw material liquid from a pinholing opening oozed the filling member, and \*\* was prevented is very easy after sewing. And that what is necessary is to use the shape of a tape, and a string-like object only for a sewing portion, as compared with that of a wrap, a filling member can stick a sheet etc. after sewing, and the minimal dose is sufficient also as the amount of the filling member used, material cost does not go up, either but it can offer the whole sewing portion cheaply.

[0025] By having adopted the configuration which unifies sewing epidermis material and foaming resin at the same time the foaming method pours fizz resin raw material liquid into the mold which used sewing epidermis material according to claim 1, and it makes this resin foam to it and it really [ of this invention / epidermis ] forms foaming resin Sewing epidermis material is arranged to a position in the case of shaping. As impregnation restoration of the shaping resin is carried out It can prevent easily foaming resin leaking outside from a pinholing opening, and hardening to punctate. It is available as it is in the shaping equipment till then, and similarly, since a fabrication operation can also really [ epidermis ] which was excellent in appearance quality obtain mold goods, a practical effect is completely large [ the activity which fills a pinholing opening like the conventional method one by one is unnecessary entirely, and / a fabrication operation ]. Moreover, the obtained mold goods become what was excellent in the feeling of taking a seat of a suture portion, or a feeling of contact, without spoiling the hand of facing.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the fragmentary sectional view really [ epidermis ] showing one example of a foaming article.

[Drawing 2] One example of the sewing epidermis material of this invention is shown, and it is the cross section of a sewing portion.

[Drawing 3] Other examples of the sewing epidermis material of this invention are shown, and it is the cross section of a sewing portion.

[Drawing 4] It is drawing for really [ of this this invention / epidermis ] explaining the foaming method, and is the cross section of the mold for shaping.

[Description of Notations]

- 1 Sewing Epidermis Material
- 2 (2a, 2b,c [ 2 ],d [ 2 ], 2e) epidermis material
- 3 Foaming Resin
- 4 Filling Member
- 5 Sewing Thread

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[Translation done.]